



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

IWS Gas and Supply
111 Buras Drive, Belle Chasse, LA 70037

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Calibration of Specialty Gases
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Initial Accreditation Date:

July 3, 2008

Issue Date:

October 24, 2020

Expiration Date:

December 31, 2022

Accreditation No.:

62778

Certificate No.:

L20-650

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjllabs.com



Certificate of Accreditation: Supplement

IWS Gas and Supply

111 Buras Drive, Belle Chasse, LA 70037
 Contact Name: Bill Vernon Phone: 504-392-2400

Accreditation is granted to the facility to perform the following calibrations:

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Calibration Gas Cylinder - Trace Moisture Concentration ^F	0.000 15 % mol fraction to 0.1 % mol fraction	$(4.4 \times 10^{-5} + 4.57 \times 10^{-2}C)$ % mol fraction	Electrolytic Moisture Analysis
Calibration Gas Cylinder - Trace Hydrocarbon Concentration ^F	0.000 06 % mol fraction to 10 % mol fraction	$(1.9 \times 10^{-5} + 2 \times 10^{-2}C)$ % mol fraction	Flame Ionization Detector/Non-dispersive Infrared (NDIR) Analysis
Calibration Gas Cylinder - Trace Oxygen Concentration ^F	0.000 06 % mol fraction to 0.099 9 % mol fraction	$(2 \times 10^{-5} + 9.82 \times 10^{-3}C)$ % mol fraction	Electrochemical Oxygen Analysis
Calibration Gas Cylinder - Percent Oxygen Concentration ^F	0.3 % mol fraction to 100 % mol fraction	$(1 \times 10^{-1} + 0 \times 10^{+0}C)$ % mol fraction	Paramagnetic Oxygen Analysis
Calibration Gas Cylinder - Gas Mixture Concentration ^F	0.001 5 % mol fraction to 100 % mol fraction	$(4.71 \times 10^{-4} + 2 \times 10^{-2}C)$ % mol fraction	Gas Chromatography with a Thermal Conductivity Detector
Calibration Gas Cylinder - Gas Mixture Concentration ^F	0.000 1 % mol fraction to 100 % mol fraction	$(9 \times 10^{-6} + 1 \times 10^{-2}C)$ % mol fraction	Gas chromatography with a Flame Ionization Detector
Gravimetric Balance - Gas Mixture Concentration ^F	0.000 3 % mol fraction to 100 % mol fraction	$(7 \times 10^{-6} + 1 \times 10^{-2}C)$ % mol fraction	Gravimetric Balance
Trace Nitric Oxide Concentration ^F	0.000 3 % mol fraction to 1 % mol fraction (0.000 1 % mol fraction LoD)	$(9.8 \times 10^{-5} + 9.9 \times 10^{-3}C)$ % of mol fraction	Chemiluminescence Analysis
Trace Hydrogen Sulfide Concentration ^F	0.000 03 % mol fraction to 0.1 % mol fraction (0.000 01 % mol fraction LoD)	$(1 \times 10^{-5} + 9.9 \times 10^{-3}C)$ % mol fraction	
Trace Carbon Monoxide Concentration ^F	0.001 5 % mol fraction to 0.3 % mol fraction (0.000 5 % mol fraction LoD)	$(4.88 \times 10^{-2} + 6.74 \times 10^{-3}C)$ % of mol fraction	Non-dispersive Infrared (NDIR) Analysis
Trace Sulfur Dioxide Concentration ^F	0.000 15 % mol fraction to 0.5 % mol fraction (0.000 5 % mol fraction LoD)	$(4.9 \times 10^{-5} + 9.9 \times 10^{-3}C)$ % mol fraction	
Concentration of Carbon Dioxide ^F	0.3 % mol fraction to 30 % mol fraction (0.1 % mol fraction LoD)	$(9.8 \times 10^{-2} + 6.74 \times 10^{-3}C)$ % mol fraction	



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Accreditation is granted to the facility to perform the following calibrations:

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this calibration at its fixed location.
4. The term C represents concentration in moles or micromoles appropriate to the uncertainty statement.